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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,421	09/26/2003	Tetsuo Matsumura	056203.49699C1	5725

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EXAMINER

LE, DAVID D

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,421

Applicant(s)

MATSUMURA ET AL.

Examiner

David D. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>26 September 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the first Office action on the merits of Application No. 10/670,421, filed on 26 September 2003. Claims 20-28 are pending.

Documents

1. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 09/26/03

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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3. The abstract of the disclosure is objected to because the current abstract contains the legal phraseology, "*means*". Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

- Page 1 of the instant application, applicant attempts to incorporate the disclosures of two applications for patents with titles "APPARATUS AND METHOD OF CONTROLLING A VEHICLE" and "AUTOMATIC TRANSMISSION CONTROL METHOD AND AUTOMATIC TRANSMISSION CONTROLLER" without providing the corresponding serial numbers and filing dates. Applicant is required to update the status of those applications above.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 20-23 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 5,941,792 to Amendt et al. in view of U. S. Patent No. 4,449,416 to Huitema.**

Claims 20-23 and 26-28:

Amendt (column 3, line 14 – column 21, lines 55) discloses a method and an apparatus for regulating crawling movements of motor vehicles comprising:

- A control unit (13);
- An engine electronic control circuit (50);
- An input shaft (8);
- An output shaft (5);
- A gear drive transmission (4);
- A first clutch (3) mounted between an engine (2) and the gear drive transmission (4), for connecting or disconnecting torque transmitted from the engine to driving wheels (6a);
- Wherein the control unit (13) includes:
 - A driver's will-detecting means (being sensor 19a and/or 19b of the gear shift lever 18; sensor 32 of the gas pedal 30; sensor 41 of brake pedal 40) for detecting at least a request for shifting gears or starting and acceleration (i.e., column 12, lines 10-56);
 - A creep control completion decision means (being the actuation of either the gas pedal 30 or the brake pedal 40) for deciding whether or not creep torque generation has been finished (i.e., column 17, line 16 – column 22, line 2);

- Wherein when the driver's will-detecting means detects said request for starting and acceleration, the first clutch starts to enter a slipping-engagement state, and said slipping-engagement of said first clutch causes said torque from the engine to be transmitted to generated so-called creep torque to let the vehicle move, and when said creep control completion detection means decides that creep control has been finished, said creep torque generating means releases the slipping engagement of the first clutch to release the generation of creep torque;
- Wherein when the driver's will-detecting means detects said request for starting and acceleration, the first clutch starts to enter a slipping-engagement state, and said slipping-engagement of said first clutch causes said torque from the engine to be transmitted to generated so-called creep torque to let the vehicle move, and when said creep control completion detection means detects a braking action, said creep torque generation means releases the slipping-engagement of the first clutch to release the generation of creep torque (column 6, lines 59-65);
- Wherein the driver's will-detecting means detects brake releasing by a brake pedal switch (column 13, line 62 – column 14, line 17);
- Wherein said creep control completion decision means for deciding whether or not creep control has been finished when a vehicle speed is equal to or higher than a specified value (column 21, lines 5-55);

- Wherein said creep control completion decision means for deciding whether or not creep control has been finished when said transmission torque of the first clutch has reached specified value (column 21, lines 5-55); and
- Wherein said creep control decision means decides whether or not creep control has been finished when the duration of the slipping-engagement state of the first clutch has reached a specified length of time (column 6, lines 59-65).

Amendt, however, does not teach a dog clutch type of a torque transmission means disposed between an input shaft and an output shaft of said gear drive transmission.

Huitema (i.e., column 1, line 26 – column 5, line 61) teaches a transmission control system comprising a plurality of dog-clutches (48, 46, 50, 52) for transmitting torque, which are disposed between an input shaft and an output shaft of a gear drive transmission.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify Amendt to include a pair of dog clutches such that each of the dog clutches engages the driven gear of the desired ratio, in view of Huitema in order to provide a greater improvement in transmitting power between an input shaft and an output shaft of a typical parallel, counter rotating, shafts type of transmission.

7. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amendt in view of Huitema as applied to claims 20-23 and 26-28 above, and further in view of U. S. Patent No. 5,913,377 to Ota et al.

Claims 24 and 25:

Amendt in view of Huitema discloses all elements and limitations as set forth above. Regarding claims 24 and 25, the Amendt-Huitema combination lacks:

- Wherein the driver's will-detecting means is adapted to detect brake releasing by a pressure of a brake cylinder; and
- Wherein the driver's will-detecting means detects brake releasing by a brake pedal pressure sensor.

Ota (Fig. 1; column 4, lines 21-36) teaches a traction control system for a four-wheel drive vehicle comprising:

- A hydraulic pressure generator (PG);
- A master cylinder (MC);
- A braking operation detector (BM);
- A brake pedal pressure sensor (PD); and
- Wherein the brake pedal pressure sensor detects the hydraulic braking pressure discharged from the master cylinder.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to further modify Amendt to include a pressure sensor of a brake cylinder as well as a brake pedal pressure sensor, in view of Ota, in order to provide a more effective means in controlling the slipping-engagement of the main clutch.

Conclusion

8. This is a continuation of applicant's earlier Application No. 09/793,403, filed on 27 February 2001. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ddl


CHARLES A. MARMOR
SUPERVISORY PATENT EXAMINER
ART UNIT 3681